

1. INTRODUCTION AND BACKGROUND

1.1 Background and Purpose of the Plan

The Florida Department of Transportation (FDOT), Monroe County, and the Florida Department of Community Affairs (DCA)(the Applicants) submit this Habitat Conservation Plan (HCP or Plan), which addresses impacts to covered species resulting from potential development activities over a 20-year year period in Big Pine Key and No Name Key, Monroe County, Florida (Figure 1.1). Activities covered under this HCP include residential and commercial development, as well as transportation improvements to meet the community needs of Big Pine Key and No Name Key. The HCP establishes the guidelines under which covered activities may occur and describes a conservation and mitigation strategy to minimize and mitigate for the incidental take of threatened and endangered species during the execution of covered development activities. The Plan has been developed in accordance with the federal Endangered Species Act of 1973, as amended (ESA or Act).

A number of species listed at the Federal and/or state level(s), including the endangered Florida Key deer (*Odocoileus virginianus clavium*), have been documented to occur, or have the potential to occur, within the project area. The Applicants have determined that the incidental take of Key deer may occur as a result of development activities during the next 20 years. Incidental take coverage is also requested for two additional species that may be indirectly affected mainly through habitat loss by urban development activities throughout the 20-year period.

This HCP and accompanying Incidental Take Permit (ITP) application support the Applicants' request for the incidental take of Key deer and other covered species within the project area from the U.S. Fish and Wildlife Service (the Service or USFWS). In compliance with the ITP issuance criteria listed in Section 10(a)(1)(B) of the Act, the HCP provides for the minimization and mitigation of the incidental take. Ultimately, the incidental take would not significantly affect the likelihood of survival and recovery of the species in the wild.

The Applicants understand that the ITP itself does not authorize development activities. Instead, the ITP authorizes the incidental take of covered species that may occur as a result of covered activities during the 20-year permit.

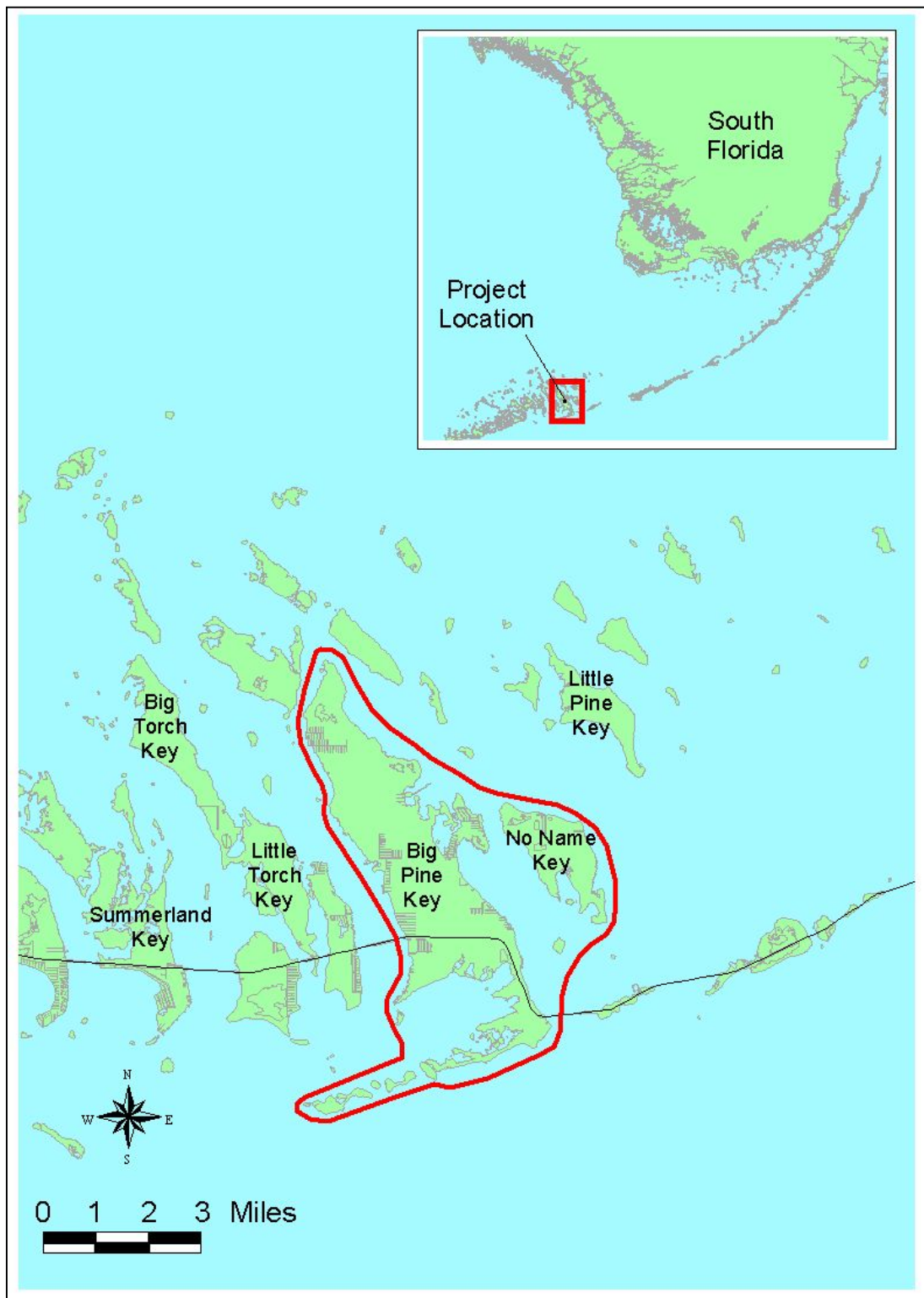


Figure 1.1. Project area

1.1.1 Historical Background and Memorandum of Agreement

Several listed species, including the Key deer, occur on Big Pine Key and No Name Key. The Key deer are wide-ranging and use a variety of habitats, including developed areas; consequently, they share much of their range with the human population. The Key deer was listed as endangered at the federal level in March 1967 [32 Code of Federal Regulations (CFR) 4001]. Since the establishment of the National Key Deer Refuge (Refuge) in 1957, population levels recovered. In 1951, there were an estimated 25 to 80 individuals; by 1973 the population had recovered to approximately 300 to 400, including 151 to 191 deer on Big Pine Key alone (FDOT 1999). However, mortality from road kills and habitat loss continued to threaten the population and, by 1982, population numbers were down to between 250 and 300 individuals (Klimstra 1985, USFWS 1985a).

In the late 1980s, the FDOT began consultation to find a solution to the high road mortality of Key deer along portions of US-1 on Big Pine Key. In September 1993, FDOT convened a stakeholders meeting, after which an Ad Hoc Committee pursued solutions to the highway mortality of the Key deer. FDOT funded a Concept Study to examine viable alternatives for reducing Key deer mortality caused by vehicle collisions. The study focused on consensus-building via public involvement and agency coordination, coupled with scientific analyses, and identified a series of structural and non-structural alternatives (FDOT 1996). The Concept Study recommended that wildlife underpasses be installed to allow the Key deer to move safely across the undeveloped segment of US-1 (approximately MM 33.0 to MM 31.0) and that a series of non-structural options, including signage, be implemented in the developed portion of US-1 in Big Pine Key (approximately MM 31.0 to MM 29.5).

Following the recommendations of the Concept Study, FDOT funded a Project Development & Environment (PD&E) Study to further evaluate the alternatives identified in the Concept Study (FDOT 1998). The PD&E Study included extensive public involvement and formal consultation with the USFWS. In January 1999, the Service issued a Biological Opinion for the Key deer (USFWS 1999a). During the course of the PD&E Study, a Technical Task Force developed possible solutions for alleviating traffic congestion on US-1 on Big Pine Key. The Task Force recommended an intersection improvement project in the vicinity of the signalized intersection at US-1 and Key Deer Boulevard. Intersection improvements included adding a northbound through lane on US-1, both east and west of the traffic signal; extending the intersection's existing southbound left-turn lane on US-1; and improving the traffic signalization timing. The wildlife underpasses and intersection improvement have been constructed.

Since 1995, Big Pine Key has been under a building moratorium due to an insufficient level of service (LOS) on US-1. The moratorium was lifted temporarily in 1996. Improvements to US-1 would improve the LOS, thereby alleviating the building moratorium. The Service agreed to allow the intersection improvement project to proceed on the condition that an HCP be prepared.

In 1998, the Applicants and two Technical Assistance Agencies, the Service and the Florida Fish and Wildlife Conservation Commission (FWC), signed a Memorandum of Agreement (MOA) to develop an HCP for the Key deer and other protected species in the project area. The purpose of the MOA was to direct an interagency approach to the conservation of federally protected species on Big Pine Key and No Name Key. Specific objectives of the MOA were to define the relationships and cooperative agreements between signatory parties, determine appropriate growth and build out levels for the project area and establish a multi-agency HCP Coordinating Committee.

1.1.2 Coordinating Committee

In accordance with the MOA, the Applicants established a multi-agency HCP Coordinating Committee at the outset of the HCP process. The Coordinating Committee included representatives from the Applicants, Technical Assistance Agencies (USFWS and FWC), and two citizen representatives from Big Pine Key and No Name Key. The objectives of the Coordinating Committee were:

- Acquire and manage consultants tasked with developing the HCP;
- Establish funding obligations among the HCP Co-Applicant Agencies;
- Define the desired outcome of the HCP; and
- Define Applicant roles.

The HCP Coordinating Committee met approximately every other month, beginning in late 1999 and continuing through December 2002.

1.1.3 Objectives of the Plan

At the outset of the study, the Applicants worked in consultation with the Service to establish clear and measurable biological goals for the HCP. Initially, a 5% probability of extinction in 100 years for the Key deer was established as the biological threshold to measure the effect of development activities. During the development of the HCP, this threshold was modified (see Section 5).

Biological studies performed for this HCP focused on the Key deer, and emphasized a habitat-based approach for other covered species. The Key deer are wide ranging and utilize virtually all available habitat in the project area, including developed areas (Lopez 2001). In contrast, the other species included in the HCP (see Section 2.3) are restricted to one or two habitat types within the project area. For example, the Lower Keys marsh rabbit (*Sylvilagus palustris hefneri*) is restricted to wetland habitats. Therefore, the Plan focused on the Key deer as an “umbrella species” and operated under the assumption that avoiding and minimizing impacts to Key deer habitat, would also provide direct protection to both populations and habitats of other terrestrial species.

The plan aims at providing for the protection of covered species in the project area, while allowing development activities that satisfy community needs in Big Pine Key and No Name Key.

1.2 Plan Development Process and Methodology

The development of the HCP included scientific studies, developing and evaluating alternatives, and implementing a public information and participation program. Concurrently with the HCP, Monroe County carried out a planning effort based on community participation, in order to determine community needs.

1.2.1 Technical Studies

Lopez (2001) studied the ecology and population dynamics of the Key deer for three years. He followed the movement, habitat utilization and fate of over 200 deer using radio-telemetry and census procedures. The study produced a Population Viability Analysis (PVA) model to evaluate the impacts of development scenarios on the Key deer population.

The model evaluates the likelihood that the species will persist for a given time into the future under different scenarios. Land development alternatives produced by the community were evaluated using the PVA model to quantify the associated impacts to Key deer in the project area. The PVA model was reviewed and critiqued by Dr. Resit Akcakaya (Applied Biomathematics, Inc.), an expert in population models and PVA. Dr. Akcakaya reviewed the model twice, in June 2000 and August 2001. Additionally, two technical workshops were held in Miami, Florida among the Applicants and the USFWS and the FWC to review the Key deer PVA model. For a description of PVA model development see Section 2.2.

Concurrently, Monroe County carried out a Livable CommuniKeys Program (LCP) to determine the community's preferred type, location, and amount of development in the project area. A Development Alternatives Report produced in March 2001 (Monroe County Department of Planning and Environmental Resources, 2001) provides a detailed description of the final LCP alternatives, the methods used to develop these alternatives and the planning criteria by which alternatives were evaluated. The LCP for Big Pine Key and No Name Key, as well as this HCP provide the basis of a Master Plan for future development within the project area.

1.2.2 Public Information and Involvement

The development of the HCP included extensive public involvement activities. The public information and participation plan included identification of stakeholders, periodic project-update mailings, several public meetings, and an open-door policy for public input.

Stakeholders are those individuals and organizations with an economic, cultural, social or environmental interest in the HCP. They included property owners, elected officials and other community leaders, Federal, State and local governments, permitting and reviewing agencies, environmental organizations, members of the media, and interested private citizens. Using the 1999 Monroe County Property Appraiser database as a foundation, a stakeholder database containing the names and addresses of more than 4,400 landowners was developed.

Public feedback helped identify over 100 additional stakeholders, who were included in the database. These additional stakeholders represent individuals or groups that did not own land within the project area but were interested in the process and outcome of the HCP, including non-profit and environmental organizations. The list of stakeholders was used to distribute public meeting invitations and project status reports. The stakeholder database was continually updated and maintained, per input received at public meetings from private landowners, citizen letters to the FDOT, and forwarding addresses provided by the U.S. Postal Service.

Three public meetings were held in Big Pine Key between February 2000 and March 2001 (Table 1.1). The objectives of the meetings were to inform the public about the scientific basis of the HCP, describe how land development alternatives were evaluated, and obtain input to ensure that all points of view were considered. Meetings were announced through direct mailings to property owners and other stakeholders, radio announcements, and newspapers. Generally, the public meetings included a presentation and a question and answer session. Public comments were recorded in very meeting. Meetings were held in accordance with applicable State and Federal laws, including provisions for the disabled as required by the Americans with Disabilities Act.

Table 1.1. HCP public meetings

	First Public Meeting	Second Public Meeting	Third Public Meeting
Date	February 1, 2000	April 17, 2000	March 27, 2001
Time	7:00 pm	7:30 pm	Two sessions: 4:30 pm and 7:30 pm
Venue	Big Pine Key United Methodist Church	Big Pine Key United Methodist Church	Big Pine Key Neighborhood School
Number of Attendees	Approximately 400	Approximately 100	Approximately 35 at each session (70 total)

Table 1.1. HCP public meetings

	First Public Meeting	Second Public Meeting	Third Public Meeting
Meeting Objectives	<ul style="list-style-type: none"> • Introductory meeting • Present background material and the HCP process • Present the project schedule and upcoming activities • Provide opportunity to identify public concerns 	<ul style="list-style-type: none"> • Present the model, its opportunities and constraints • Present current status of the Key deer • Discuss land acquisition programs, land use regulations and traffic analyses 	<ul style="list-style-type: none"> • Present preliminary model results for biological analysis of the Key deer and Lower Keys marsh rabbit • Discuss how the Livable Community Keys Program's scenarios will interrelate with the knowledge of the species biology

1.3 HCP Covered Area

The Florida Keys, including the project area, comprise a 113-mile long chain of islands extending southwest from the southern tip of the Florida mainland peninsula to the Dry Tortugas. Key Largo (25.1 square miles) and Big Pine Key (10.4 square miles) are the largest islands in this chain and possess the greatest diversity and acreage of habitats. Big Pine Key and No Name Key are situated in the southern third of the Florida Keys, also known as the Lower Keys. Long narrow channels separate the islands and connect the Gulf of Mexico with the Straits of Florida (Figure 1.1).

The HCP project area encompasses 7,031 total acres, including 5,840 acres on Big Pine Key and 1,191 acres No Name Key. These two islands support more than two-thirds of the Key deer population. Sixty-six percent of the project area is in conservation, including Federal lands within the Refuge, state-owned lands and lands owned by the Monroe County Land Authority (MCLA). Though these lands currently receive protection, they are included within the Plan's covered area since the effects of development are evaluated on Key deer throughout Big Pine Key and No Name Key.

1.4 Regulatory Basis of the HCP

1.4.1 Endangered Species Act

The U.S. Congress enacted the Endangered Species Act in 1973 (Act) to protect plant and animal species that are likely to become extinct. The Service is responsible for implementing the ESA for those species under its jurisdiction, which include all terrestrial and freshwater species and sea turtles that utilize nesting beaches. Under the ESA and its implementing regulations, taking protected species, even incidentally, is prohibited with exceptions identified in 50 CFR 223.206. As defined in Section 9 of the ESA, the term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct, where harm is an act which actually kills or injures wildlife. Such acts include significant habitat modification or

degradation that may result in impairing essential behavioral patterns, such as breeding, feeding or sheltering (50 CFR Part 222).

Incidental take is the accidental capture of listed fish or wildlife species or take of critical habitat, that is not intentional, but occurs as a result of an otherwise lawful project activity conducted by a Federal agency or applicant (50 CFR Part 402.02). An action which results in the incidental take of listed species or protected habitat, but will not jeopardize the continued existence of species and systems, is required to have an incidental take statement and permit to comply with Sections 7(b)(4) and 10(a)(1)(B) of the Act.

Section 10 of the Act describes circumstances under which the incidental take of federally listed species may be authorized for non-Federal activities. Section 10(a)(1)(B) of the Act establishes the ITP process by which the Secretary of the Interior authorizes the incidental take of a threatened or endangered species. Section 10(a)(2)(A) of the Act requires ITP applicants to submit a “conservation plan” which specifies the impact to the species likely to result from the proposed action and the measures that would be taken to minimize and mitigate such impacts.

1.4.2 Clean Water Act

Lands containing jurisdictional wetlands are present in the project area (Figure 2.2). Dredge and fill activities in jurisdictional areas, including wetlands, are regulated by the Section 404 Clean Water Act (CWA) program, which is jointly administered by the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers (Corps). The Key deer HCP does not support any Section 404 permit under the CWA nor does it exempt landowners from obtaining CWA compliance from the Corps for activities that may impact jurisdictional areas. If a federally listed covered species is to be adversely affected by proposed development activities in a jurisdictional wetland, the Corps must consult with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service in accordance with Section 7 of the Act. Effects to federally listed covered species resulting from impacts to jurisdictional wetlands within the project area will be addressed through the Section 7 consultation at the time such development is proposed.